

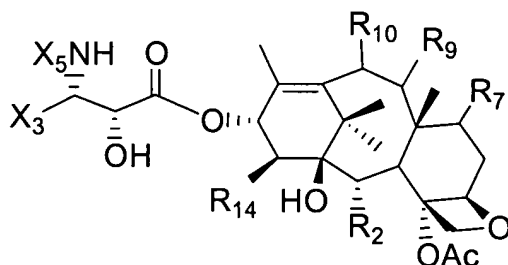
Express Mail No. EL 998649021 US

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

Claim 1 (Currently amended): A taxane having the formula:



wherein

R₂ is acyloxy;

R₇ is hydroxy;

R₉ is keto, hydroxy, or acyloxy;

R₁₀ is acyloxyacetyloxy;

R₁₄ is hydrido or hydroxy;

X₃ is substituted or unsubstituted alkyl, alkenyl, or alkynyl or heterocyclo;

X₅ is -COX₁₀, -COOX₁₀, or -CONHX₁₀;

X₁₀ is hydrocarbyl, substituted hydrocarbyl, or heterocyclo; and

Ac is acetyl.

Claim 2 (Original): The taxane of claim 1 wherein X₃ is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, C₁ - C₈ alkyl, C₂ - C₈ alkenyl, or C₂ - C₈ alkynyl.

Claim 3 (Original): The taxane of claim 1 wherein X₅ is -COX₁₀ and X₁₀ is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, C₁ - C₈ alkyl, C₂ - C₈ alkenyl, or C₂ - C₈ alkynyl, or X₅ is -COOX₁₀ and X₁₀ is substituted or unsubstituted C₁ - C₈ alkyl, C₂ - C₈ alkenyl, or C₂ - C₈ alkynyl.

Express Mail No. EL 998649021 US

Claim 4 (Original): The taxane of claim 1 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is phenyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 5 (Original): The taxane of claim 1 wherein R_{14} is hydrido.

Claim 6 (Original): The taxane of claim 5 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 7 (Original): The taxane of claim 5 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl or X_5 is $-\text{COOX}_{10}$ and X_{10} is substituted or unsubstituted $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 8 (Original): The taxane of claim 5 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is phenyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 9 (Original): The taxane of claim 1 wherein R_2 is benzoyloxy.

Claim 10 (Original): The taxane of claim 9 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 11 (Original): The taxane of claim 9 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl or X_5 is $-\text{COOX}_{10}$ and X_{10} is substituted or unsubstituted $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 12 (Original): The taxane of claim 9 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is phenyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 13 (Original): The taxane of claim 1 wherein R_{14} is hydrido and R_9 is keto.

Express Mail No. EL 998649021 US

Claim 14 (Original): The taxane of claim 13 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 15 (Original): The taxane of claim 13 wherein X_5 is $-COX_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl or X_5 is $-COOX_{10}$ and X_{10} is substituted or unsubstituted $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 16 (Original): The taxane of claim 13 wherein X_5 is $-COX_{10}$ and X_{10} is phenyl, or X_5 is $-COOX_{10}$ and X_{10} is t-butyl.

Claim 17 (Original): The taxane of claim 1 wherein R_2 is benzoyloxy and R_9 is keto.

Claim 18 (Original): The taxane of claim 17 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 19 (Original): The taxane of claim 17 wherein X_5 is $-COX_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl or X_5 is $-COOX_{10}$ and X_{10} is substituted or unsubstituted $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 20 (Original): The taxane of claim 17 wherein X_5 is $-COX_{10}$ and X_{10} is phenyl, or X_5 is $-COOX_{10}$ and X_{10} is t-butyl.

Claim 21 (Original): The taxane of claim 1 wherein R_{14} is hydrido and R_2 is benzoyloxy.

Claim 22 (Original): The taxane of claim 21 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Express Mail No. EL 998649021 US

Claim 23 (Original): The taxane of claim 21 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $\text{C}_1 - \text{C}_8$ alkyl, $\text{C}_2 - \text{C}_8$ alkenyl, or $\text{C}_2 - \text{C}_8$ alkynyl or X_5 is $-\text{COOX}_{10}$ and X_{10} is substituted or unsubstituted $\text{C}_1 - \text{C}_8$ alkyl, $\text{C}_2 - \text{C}_8$ alkenyl, or $\text{C}_2 - \text{C}_8$ alkynyl.

Claim 24 (Original): The taxane of claim 21 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is phenyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 25 (Original): The taxane of claim 1 wherein R_{14} is hydrido, R_9 is keto, and R_2 is benzoyloxy.

Claim 26 (Original): The taxane of claim 25 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $\text{C}_1 - \text{C}_8$ alkyl, $\text{C}_2 - \text{C}_8$ alkenyl, or $\text{C}_2 - \text{C}_8$ alkynyl.

Claim 27 (Original): The taxane of claim 25 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $\text{C}_1 - \text{C}_8$ alkyl, $\text{C}_2 - \text{C}_8$ alkenyl, or $\text{C}_2 - \text{C}_8$ alkynyl or X_5 is $-\text{COOX}_{10}$ and X_{10} is substituted or unsubstituted $\text{C}_1 - \text{C}_8$ alkyl, $\text{C}_2 - \text{C}_8$ alkenyl, or $\text{C}_2 - \text{C}_8$ alkynyl.

Claim 28 (Original): The taxane of claim 25 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is phenyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 29 (Original): The taxane of claim 25 wherein X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

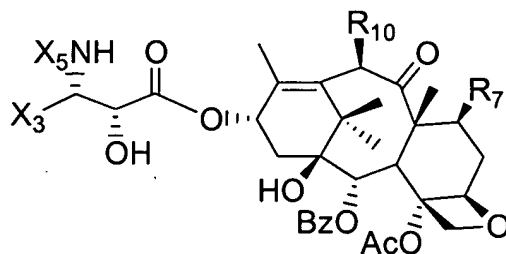
Claim 30 (Original): The taxane of claim 29 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, cycloalkyl or alkenyl.

Claim 31 (Original): The taxane of claim 29 wherein X_3 is furyl or thienyl.

Claim 32 (Original): The taxane of claim 29 wherein X_3 is cycloalkyl.

Express Mail No. EL 998649021 US

Claim 33 (Currently amended): A taxane having the formula



R_7 is hydroxy;

R_{10} is $R_{10a}COO^-$;

R_{10a} is a heterosubstituted methyl group wherein the heteroatom may be substituted to form a heterocyclo, alkoxy, alkenoxy, alkynoxy, aryloxy, hydroxy, protected hydroxy, oxy, acyloxy, nitro, amino, amido, thiol, ketal, acetal, ester or ether;

X_3 is substituted or unsubstituted alkyl, alkenyl, or alkynyl or heterocyclo;

X_5 is $-COX_{10}$, $-COOX_{10}$, or $-CONHX_{10}$; and

X_{10} is hydrocarbyl, substituted hydrocarbyl, or heterocyclo.

Claim 34 (Original): The taxane of claim 33 wherein X_3 is furyl, thienyl, pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 35 (Original): The taxane of claim 33 wherein R_{10} is $R_{10a}COO^-$ and R_{10a} is a heterosubstituted methyl group wherein the heteroatom may be substituted to form a alkoxy, alkenoxy, aryloxy, hydroxy, acyloxy, ester or ether.

Claim 36 (Currently amended): The taxane of claim 33 wherein R_{10} is $R_{10a}COO^-$ and R_{10a} is a heterosubstituted methyl group wherein the heteroatom may be substituted to form **[a] an** alkoxy or aryloxy.

Claim 37 (Cancelled)

Claim 38 (Original): The taxane of claim 34 wherein X_3 is furyl or thienyl.

Express Mail No. EL 998649021 US

Claims 39-63 (Cancelled)

Claim 64 (Original): A pharmaceutical composition comprising the taxane of claim 1 and at least one pharmaceutically acceptable carrier.

Claim 65 (Original): The pharmaceutical composition of claim 64 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl or $C_2 - C_8$ alkynyl.

Claim 66 (Original): The pharmaceutical composition of claim 65 wherein X_5 is $-COX_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl, or X_5 is $-COOX_{10}$ and X_{10} is substituted or unsubstituted $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 67 (Original): The pharmaceutical composition of claim 65 wherein X_5 is $-COX_{10}$ and X_{10} is phenyl, or X_5 is $-COOX_{10}$ and X_{10} is t-butyl.

Claim 68 (Original): The pharmaceutical composition of claim 65 wherein X_3 is substituted or unsubstituted furyl or thienyl, and X_5 is $-COX_{10}$ wherein X_{10} is phenyl, or X_5 is $-COOX_{10}$ and X_{10} is t-butyl.

Claim 69 (Original): The pharmaceutical composition of claim 65 wherein X_3 is furyl or thienyl, and X_5 is $-COX_{10}$ wherein X_{10} is phenyl, or X_5 is $-COOX_{10}$ wherein X_{10} is t-butyl.

Claim 70 (Original): The pharmaceutical composition of claim 65 wherein X_3 is alkyl or isobutenyl, and X_5 is $-COX_{10}$ wherein X_{10} is phenyl, or X_5 is $-COOX_{10}$ wherein X_{10} is t-butyl.

Claim 71 (Original): The pharmaceutical composition of claim 65 wherein X_3 is furyl or thienyl, X_5 is $-COOX_{10}$ and X_{10} is t-butyl.

Express Mail No. EL 998649021 US

Claim 72 (Original): The pharmaceutical composition of claim 65 wherein X_3 is isobutenyl or alkyl, X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 73 (Original): A pharmaceutical composition comprising the taxane of claim 34 and at least one pharmaceutically acceptable carrier.

Claim 74 (Original): A pharmaceutical composition comprising the taxane of claim 38 and at least one pharmaceutically acceptable carrier.

Claim 75 (Original): A composition for oral administration comprising the taxane of claim 1 and at least one pharmaceutically acceptable carrier.

Claim 76 (Original): The pharmaceutical composition of claim 75 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl or $C_2 - C_8$ alkynyl.

Claim 77 (Original): The pharmaceutical composition of claim 76 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is substituted or unsubstituted $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 78 (Original): The pharmaceutical composition of claim 76 wherein X_5 is $-\text{COX}_{10}$ and X_{10} is phenyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 79 (Original): The pharmaceutical composition of claim 76 wherein X_3 is substituted or unsubstituted furyl or thienyl, and X_5 is $-\text{COX}_{10}$ wherein X_{10} is phenyl, or X_5 is $-\text{COOX}_{10}$ and X_{10} is t-butyl.

Claim 80 (Original): A composition for oral administration comprising the taxane of claim 34 and at least one pharmaceutically acceptable carrier.

Express Mail No. EL 998649021 US

Claim 81 (Original): A composition for oral administration comprising the taxane of claim 38 and at least one pharmaceutically acceptable carrier.

Claim 82 (Original): A method of inhibiting tumor growth in a mammal, said method comprising orally administering a therapeutically effective amount of a pharmaceutical composition comprising the taxane of claim 1 and at least one pharmaceutically acceptable carrier.

Claim 83 (Original): The method of claim 82 wherein X_3 is 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl or $C_2 - C_8$ alkynyl.

Claim 84 (Original): The method of claim 83 wherein X_5 is $-COX_{10}$ and X_{10} is substituted or unsubstituted phenyl, 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl, or X_5 is $-COOX_{10}$ and X_{10} is substituted or unsubstituted $C_1 - C_8$ alkyl, $C_2 - C_8$ alkenyl, or $C_2 - C_8$ alkynyl.

Claim 85 (Original): The method of claim 83 wherein X_5 is $-COX_{10}$ and X_{10} is phenyl, or X_5 is $-COOX_{10}$ and X_{10} is t-butyl.

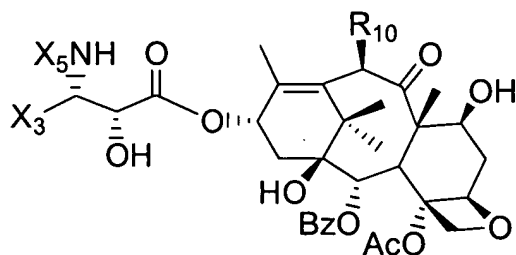
Claim 86 (Original): The method of claim 83 wherein X_3 is substituted or unsubstituted furyl or thienyl, and X_5 is $-COX_{10}$ wherein X_{10} is phenyl, or X_5 is $-COOX_{10}$ and X_{10} is t-butyl.

Claim 87 (Original): A method of inhibiting tumor growth in a mammal, said method comprising orally administering a therapeutically effective amount of a pharmaceutical composition comprising the taxane of claim 34 and at least one pharmaceutically acceptable carrier.

Claim 88 (Original): A method of inhibiting tumor growth in a mammal, said method comprising orally administering a therapeutically effective amount of a pharmaceutical composition comprising the taxane of claim 38 and at least one pharmaceutically acceptable carrier.

Express Mail No. EL 998649021 US

Claim 89 (Original): A taxane having the formula



5 wherein

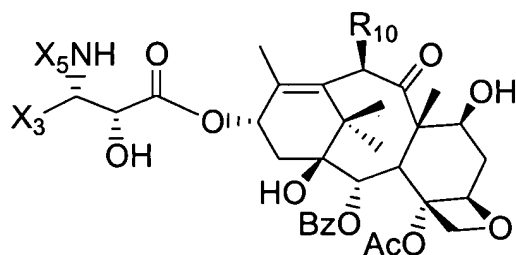
R_{10} is acetyloxyacetyloxy or methoxyacetyloxy;

X_3 is 2-furyl;

X_5 is $-\text{COOX}_{10}$ and X_{10} is t-amyl; and

Ac is acetyl.

Claim 90 (Original): A taxane having the formula



5 wherein

R_{10} is methoxyacetyloxy or phenoxyacetyloxy;

X_3 is 2-furyl;

X_5 is $-\text{COX}_{10}$ and X_{10} is trans-propenyl; and

Ac is acetyl.

Claim 91 (New): The taxane of claim 33 wherein X_3 is furyl or thienyl, X_5 is $-\text{COX}_{10}$ or $-\text{COOX}_{10}$, and X_{10} is $\text{C}_1 - \text{C}_8$ alkyl.

Claim 92 (New): The taxane of claim 33 wherein X_3 is furyl or thienyl, X_5 is $-\text{COX}_{10}$ or $-\text{COOX}_{10}$, and X_{10} is $\text{C}_2 - \text{C}_8$ alkenyl.

Express Mail No. EL 998649021 US

Claim 93 (New): The taxane of claim 33 wherein X_3 is furyl or thienyl, X_5 is $-\text{COX}_{10}$ and X_{10} is substituted or unsubstituted phenyl.

Claim 94 (New): The taxane of any of claims 91 to 93 wherein R_{10a} is chloromethyl, hydroxymethyl, methoxymethyl, ethoxymethyl, acetyloxymethyl, or methylthiomethyl.

Claim 95 (New): The taxane of any of claims 91 to 93 wherein R_{10a} is chloromethyl, hydroxymethyl, methoxymethyl, ethoxymethyl, acetyloxymethyl, methylthiomethyl, or phenylmethyl.

Claim 96 (New): The taxane of claim 1 wherein X_3 is heterocyclic, R_{10} is acetyloxyacetyloxy, X_5 is $-\text{COOX}_{10}$, and X_{10} is C_{1-8} alkyl.

Claim 97 (New): The taxane of claim 96 wherein X_3 is furyl, thienyl or pyridyl.

Claim 98 (New): The taxane of claim 97 wherein X_{10} is methyl, ethyl, or straight, branched or cyclic propyl, butyl, pentyl or hexyl.